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ABSTRACT

The history of universities in their social context is not a merely antiquarian study; it is the soundest basis for consideration of the contemporary university and its problems. The most frequent debate, that of the ivory tower, is really a question of the form and efficiency of the university's articulation with society at large. The adaptability of organs to new demands can seldom be reliably determined without reference to the elasticity or lack of it in the past. The relations of the university with the wider world go far to explain stability, change, growth, decay, and variety within the institutions. Student and alumni variety may explain the different function of formally similar organizations. Administrative organs may change rapidly with the change of personnel and trustees or advisors. A change in outside society may have profound repercussions within. For the purposes of understanding the university as a social organism, the study of British universities in the nineteenth century is most important, for it is this growing system that formed the basis of the systems of higher education in much of the twentieth century world. (Author/MSE)

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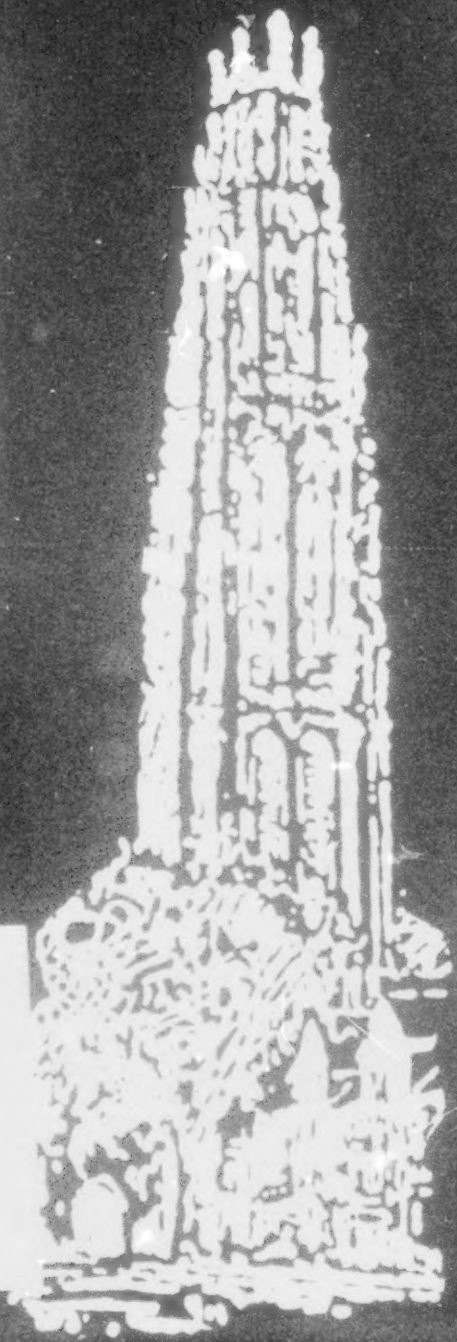

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THE BEGINNING OF CIVIC UNIVERSITIES: A SURVEY OF SOCIETAL AND INTERNAL INFLUENCES

by

David R. Jones*

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THE BEGINNING OF CIVIC UNIVERSITIES: A SURVEY OF SOCIETAL AND INTERNAL INFLUENCES

Historians and social scientists are becoming increasingly aware of the importance of understanding universities as part of any thorough study of a contemporary or past society. However, this growing awareness is as yet seldom accompanied by any clear understanding of how to study and explain the university as a societal phenomenon. The materials for such studies remain uncatalogued and uncertain. The mass of edited and published information which Dean Rashdall saw in the offing at the end of the last century has not materialized. Archives are still disorganized or even uninvestigated, and university histories, with some notable exceptions, are still largely celebratory or antiquarian in character.

The means to understand the university's function in society are even less clear or organized. Too often the university is used as a mere makeweight in some historical or sociological argument, or considered as an adjunct of industry, culture, or government. The variety and complexity of the university's roles is only equalled by the variety and complexity of motives of those who found, support, direct, and use the university. This often leads to the study of one facet of the university's character, an attempt to isolate and analyse a single influence or result. Such a limitation need not be harmful if it is understood. The danger lies in the common attempt to extrapolate conclusions about the whole institution from information about a part of it. A lack of proportion is inherent in such extrapolations: they cannot measure the relative effect and significance of the part they study for the whole institution; nor can they compare one part with another. The part studied will always seem vastly important and inevitably this colors the vision of the whole, multifaceted institution.

The dimension of time adds to the university's complexity and increases

the opportunities for errors of perception. The most common is a completely a-historical view. Institutions in the past are seen as similar, perhaps smaller versions of their present selves, founded on similar assumptions and shaped by similar influences. (An obvious but common example of this error is the assumption that universities have always and everywhere been dedicated to the pursuit of knowledge through a spirit of free, unfettered inquiry. This notion, quite recent in time and limited in space, is mistaken by many scholars for the sina qua non of any university.) Failure to appreciate the ambience or climate of a past age may lead to subtler errors. Post hoc reasoning about the motives of university founders is common. Because a university meets certain needs today it is supposed to have been founded to meet similar needs in the past. Even an attempt to ascertain needs contemporary with foundation may easily go astray. (An example from British history: the modern scholar's opinion that increased scientific and technical education and research were needed in Victorian Britain was clearly not held by a majority of those in positions of power in Victorian industry, education, or the state. Thus this supposed reason for their support of new universities becomes suspect at best.)

Another common pitfall in studies of universities is one familiar to any student of the social sciences. Attempts to explain human actions naturally tend toward the simplifying assumption that man is an entirely rational being; that his decisions result from a careful analysis of potential benefits. In fact, as many observers have pointed out,[1] there are always discrepancies between apparent rationality and actual human actions. Traditions, mores, errors, inertia, and many other factors may inhibit or altogether negate rational calculation. A detailed study of the actual motives, ideas, desires and demands of those involved with universities is necessary for any real

[1] Notably Charles E. Lindblom in "The Science of Muddling Through".

understanding of the past or explanation of the present and future of universities.

An awareness of the great variety of influences upon a university is clearly vital for any study, and a thorough and organized catalog of such influences seems desirable. As preparation for a study of the foundation of "civic" universities in 19th century Britain I have sketched the following typology for categorizing influences upon new foundations, and attempted to apply it to Victorian Britain. The validity of the method and its potential flexibility or limitations must now be tested by application to actual studies of institutions.

Any list of influences upon higher education must either begin or end with a more or less intangible factor: the general tone of society. This can only be apprehended through a thorough grounding in the history of the period in question. Is the era expansive or stable, experimental or conservative, and to what degree? The impossibility of specificity should not deter the student from some attempt to generalize on this question. Attitudes towards politics, religion, civil liberties, economic questions, and any other matters of public importance may help to characterize the times and may also influence education directly.

A more specific version of this question concerns a society's general attitude towards education. Burton Clark has used a typology for the conditions surrounding the foundation of certain "distinctive colleges" in America[2] which might well be adapted to the broader question of educational foundations generally. He suggests that distinctive organizations arise out of new or revolutionary or evolutionary contexts and with the addition of a fourth category of continuity the entire spectrum of attitudes may be covered. Obviously, no real

[2] Clark, The Distinctive College.

situation will correspond exactly to an ideal context but the preponderant trend of opinion can be ascertained. No context will be new in the sense that it will have no similar predecessors or models but the absence of closely related types of institutions and a desire to be a new creation will radically affect the form taken by any new institution. A revolutionary context, often arising out of a perception of the failure or inadequacy of previous institutions, will encourage establishments which represent a denial or reversal of the principles and practice of the previous institutions. An evolutionary context will produce new institutions which resemble while ostensibly improving upon previous establishments. Where continuity is sought new institutions will appear, if at all, as additions or multiplications of well-established types.

The more specific influences upon new foundations can be grouped and classified in a number of ways. One major distinction which need not be belabored but must always be considered is that of necessary and sufficient conditions for foundation. No quantity of necessities such as money, available personnel, potential students, and an adequate legal and organizational structure will of itself produce new universities. There must be interest on the part of those with money and a belief among potential students in the value of education. Necessary conditions are fairly easily defined. It is among the sufficient conditions that great variety exists. Capital may be provided for entrepreneurial, philanthropic, prudential, or any combination of motives. The range of students' motives is endless, and many include culture and caste, marriage and money, . . .

Perhaps the most useful method of classifying influences is by the way in which they are applied or make themselves felt in new institutions. The great majority of influences are mediated or applied by the various groups of people most concerned with the university. These groups may vary in relative strength

in different places but are generally present and four in number. The first group consists of founders, benefactors, trustees, and government officials when they act as suppliers of resources. The second group consists of faculty, administrators, and staff; those with a day-to-day interest in the running of the institution. The third group includes students and other clients of the university who may employ its expertise. A fourth group of variable significance is that of government officials who may dictate, administer, or merely advise university policy. These groups do not form discreet units: an influence may be applied by any combination of groups as in the case of economic depression which is felt by the university through student, faculty, benefactor, and government mediation. The groups themselves are not exclusive. Students often teach, clients or faculty may be benefactors, and each group is concerned with and may attempt to control or regulate the others. Particular persons or groups may regularly act in more than one capacity, as when the government is simultaneously client, benefactor, and administrator. While these overlaps must be kept in mind, in an actual situation it is possible to determine which group or groups transmit a particular influence and the relative effectiveness of each group involved.

These four major groups shape and make demands upon the new institution according to their perception of private and societal needs and how the university can fulfill them. Their motives may be interested or disinterested, philanthropic or selfish, theoretical or practical; almost always an amalgam of many of these. Thus they translate the broad environment which surrounds the fledging university into active influences upon it. This relationship between the university and society is very important and very complex.

Classification of influences by the interest groups which apply them may serve to elucidate the internal structure of the university as well as its

relation to the outside world. The strength of an influence or of an interest group may be measured by the degree to which the influence is reflected in the structure of the university. If apparently minor influences are clearly reflected, then the mediating agency must be powerful. If an influence is only hazily reflected though its mediating agent is known to be powerful, then the influence itself must be weak.

There exists a final, almost residual, category of influences: those which are not applied by any major interest group but act of themselves to help shape the new university. At one end of this spectrum we have influences which verge on the question of the condition of society discussed earlier; in a sense they are mediated unconsciously by all groups. Into this category fall such necessary conditions as a legal system conducive to the formation of new institutions and the state of the economy, which will influence students, faculty, benefactors, and others and also affect the university directly in the form of material costs, etc. At the other end are those influences which may be characterized as inertial. These are usually at their weakest at the time of foundation but become progressively stronger as time goes by. Obvious examples are institutional traditions and the physical plant. Many influences which are actively applied at the time of foundation also become increasingly inertial. The opinions and desires of a founder, an active ingredient in the new institution, become a passive or inertial force in the form of trusts, deeds, wills, charters, and habits.

Knowing how and by whom an influence is applied may help to answer a variety of questions about institutional development and continuity. As Clark and Youn have recently pointed out,[3] the origin and persistence of forms of organization and control need explanation. Which influences and which

[3] Clark and Youn, Academic Power in the U.S.

mediating groups have shaped a particular form may go far to explain both origin and persistence.

A further helpful distinction among influences is that between influences of demand and those of supply. Demand influences include students seeking training, status, or whatever; clients requesting research or expertise; the need for some particular product of university training such as teachers, lawyers, or civil servants. The distinction is important because demand and supply affect the university in quite different ways and at different speeds. Demand is subject to sudden, drastic changes in both amount and kind. A government directive or the announcement that a profession is over-crowded may suddenly alter the character or the quantity of student demand. A rival's successes may suddenly create a demand for new and different education, as in the famous case of the "sputnik" crisis in American education. Supply influences act far more slowly and are much less subject to sudden changes. University staff are slow to train and even slower to change once trained; physical plant is slow a-building, and only destroyed or altered with the greatest reluctance; slowest of all to change is the body of knowledge which is the university's essential stock in trade.

The two categories do not function separately; it is their interaction which is significant. Supply would never alter without the stimulus of demand, while demand alone would destroy all continuity in the institution. This relationship is of particular interest in the study of new institutions. Both demand and supply are uncertain. In a society where the variety and complexity of men's knowledge and endeavour has greatly exceeded the capacity of formally educational institutions, then a small supply of almost any kind of men and knowledge is available for a revolutionary institution. The demand influences are temporarily in the ascendant, as they were in the mid-Victorian Britain.

In a society where the demand for education has entirely outstripped the numbers and variety of educators and expertise, any supply whatever will be influential and in the ascendant, as in the many "third world" universities in which the influence of foreign supply has often completely and disastrously shaped the institution uncontrolled by native demand.[4]

The following pages are a tentative catalogue of the influences which mid-Victorian Britain brought to bear on its embryonic universities in the 19th century. These institutions bore little resemblance to universities as they were then known or to the large and important places of education they were to become. They were founded in many English cities, often on shoestring budgets, for assorted reasons and with various ostensible purposes. Many failed, as had many predecessors since the 18th century. Some succeeded, or at least did not disappear, and the most important of these became the "redbrick" or "civic" universities of 20th century Britain. After Manchester (1851), colleges were founded at Leeds (1874), Bristol (1876), Birmingham (1880), Liverpool (1881), Reading (1892), and Sheffield (1897).

These influences will often bear little resemblance to those which have shaped more recent universities. There was no large-scale demand for university places, nor was there a large pool of qualified candidates for admission. The state gave little of either direction or money, and there was no equivalent of the contemporary American philanthropy, either in number or size of contributions. The civic universities were to remain small until the Twentieth Century, and the influences we seek are those which affected relatively few, but which caused those few to weather the lean years and to build perhaps

[4] This notion helps to explain the suitability and success of civic universities in Britain and the comparative failure of similar university colleges in so many outposts of the Empire.

better than they knew, so that their institutions were found both invaluable and ready to hand by the students and the public of the new century.

VICTORIAN ENGLAND

Society's response to stimuli is not immediate. To understand the creations of the 70s and 80s we must seek the tone of mid-Century and mid-Victorian Britain, from the 40s on. First and most important, the stability and even stodginess which are often retrospectively seen to characterize the Victorian world were not appreciable in the 40s and by no means dominant even forty years later. Britain was and was perceived to be, in a state of flux, and even complete dissolution did not appear impossible. Expansion was constant, and uncertainty came with it. Industrial developments created new classes of men, new modes of thought, and made new demands upon society and the state. The growing number and variety of professional men sought to establish themselves and their professions in the middling or even upper classes of society. Critics were wide awake and widely read in newspapers and the popular reviews; complacency and fin-de-siecle despair were as yet unheard of.

The period began with a half-reformed Parliamentary franchise which was obviously unsatisfactory. Chartism showed that something was drastically wrong in the body politic, and the revolutions of mid-century contributed to the disquiet. It was an age of exciting and even dangerous experiments, when a politician could, with little exaggeration, call a franchise bill "a leap in the dark". In the intellecutal world Darwin's evolution and German chemistry were revolutionary. Carlyle was a great spokesman of the time, and his consistent message told the Victorians that theirs was a critical, a revolutionary age. With the 70s came a steady rise in activity and expectation.

The Reform Bill of 1867 and the shift to a liberal government seemed to imply that further changes in society were to be expected.

Religion and religious tests were undoubtedly two of the most bitterly debated and enduring issues of Victorian Britain, and in that era everyone was concerned, even if only to attack the state's support of a church. The duration and intensity of this debate rose out of the conjunction of a number of factors. The complacency of 18th Century religious opinion was supplanted by a variety of new enthusiasms. Religious fervour moved some Anglicans towards Rome, others to Methodism, and still others towards the revival of enthusiasm within the established Church known as Evangelicalism. At the same time, political theories arguing against a religious establishment and various secular philosophies attacked the spiritual and more frequently the worldly position of religion.

The importance of this public question for education in general and higher education in particular was tremendous. Primary education before 1870 was largely in church hands and the debate between Establishment and Dissent was to hinder the creation of an efficient school system until late in the Century. Higher education was equally bedevilled and yet encouraged. Like the question of religious instruction and control in schools, university tests were a national battleground.

Education for the ministry of dissenting sects had long been provided in academies of various kinds, but these neither answered the demands for secular education, nor possessed the funds and breadth of vision necessary to offer the new sciences and modern education to larger numbers. (The academies did, however, offer the precedent of scientific education. Priestley is perhaps the best known example of a Dissenter who was both educator and scientist. Many of the early exponents of new universities had attended one of the great

dissenting academies of the Midlands and the North.)[5] The religious freedom of foreign institutions provided a more direct and obvious precedent than sectarian academies. Continental and American institutions were cited, and advocates of non-sectarian education like James Yates ranged from Belfast to the Academy of Fine Arts in Mexico for their examples.[6] The founders of London University had the American example conveniently at hand. Brougham, Horner, Birkbeck and others who were to establish London (charter of incorporation proposed 1825) had entertained Francis Gilmer, the representative of Jefferson's non-sectarian University of Virginia, when he came to Europe looking for professors in 1824.[7]

Conservative arguments were also bolstered by supposed foreign examples. In an 1834 article advocating the abolition of University tests, the Edinburgh found it necessary to refute a Tory argument based on German examples. It had been claimed that the non-sectarian admissions policy of many German universities had led to much aberrant theology abhorrent to a good Anglican possessed of the true Protestant doctrine. The Edinburgh replied that its opponents: 1) ignored the large amounts of useful theology and biblical scholarship produced by Germany and, 2) forgot that faculties of theology did in fact impose restrictions on admissions. In general the weight of foreign example was with the reformers while their opponents depended on the tradition of insularity so strong in many Englishmen.

The problem of providing non-sectarian education was complicated by the fact that few reformers were willing to countenance a complete lack of

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[5] See, for example, Joseph Thompson, The Owens College. Its Foundation and Growth. Chapter III, for biographies of the original trustees.

[6] James Yates, Thoughts on the Advancement of Academical Education in England, pp. 25-28.

[7] W. H. G. Armytage, The American Influence on English Education, p. 6.

religious instruction. Though the backers of the "godless college" in Gower Street could find no workable compromise on religion except its removal, they consistently argued that this indicated not its insignificance, but its extreme importance, and the impossibility of a makeshift, compromise solution of the problem. They expected the student or his family to find religious instruction and welcomed the establishment of religious teaching or various kinds in the near vicinity of Gower Street.[8] The trustees of Owens College faced similar difficulties. John Owens, who had attended both Church and chapel in his life, expressed the new liberal principles both in free trade where he battled against the corn laws and in education where his will declared that in his college members: ". . . shall not be required to make any declaration as to, or submit to any test whatsoever of, their religious opinions, and that nothing shall be introduced in the matter or mode of education or instruction in reference to any religious or theological subject which shall be reasonably offensive to the conscience of any student. . . "[9] The trustees nonetheless considered religion to be a necessary part of education and reconciled their position with the testator's directions by offering voluntary lectures on presumably non-controversial religious questions. The debate did not end there. When the college fell upon hard times, Manchester's more radical critics were quick to seize on the theology lectures as a cause of the decline. However, the compromise was maintained in various forms until late in the century when a cooling of religious passions allowed the formation of a separate theology faculty.

Religious reaction to criticism and innovation produced additional higher

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8 The founders' view of religious education is succinctly and lucidly put in Macaulay's essay on London University, Edinburgh Review, vol. 43, p. 315. Also available in numerous editions of Macaulay.

9 Quoted in H. B. Charlton, Portrait of a University 1851-1951, p. 26.

education. Thoughtful ecclesiastics realized that criticism of a worldly and wealthy established church was bound at some point to focus upon the immense revenues of the episcopally governed County Palatinate of Durham. In the 1830s the ecclesiastical authorities therefore founded a university in the interests both of orthodox education, threatened by such new trends as London, and of establishing a use for their revenues less open to criticism.[10] King's College, London, was a more immediate reply to the new trend. Many conservative leaders from the Duke of Wellington on down, were prepared to concede the need for expanded facilities of higher education, and King's was to provide an Anglican-oriented rival to London. In theory it did so, but the practical case was to be different. As early as 1828 an Edinburgh reviewer heralded the foundation of King's but warned that it would wind up following the new trend in education without tests or sectarian bias.[11] The rising demand for admittance, foreseen by 1825,[12] would sweep tests before it and the amalgamation which formed the University of London ended the practical, if not the theoretical, debate.

The University of London is of course the great example of an institution founded as a reaction to religious discrimination. Its most obvious, significant, and debated intent was the provision of education for those outside the Anglican communion. Having appeared, it was not to be shaped and developed merely by religious or agnostic pressures, however. The new institution was by its very nature receptive to changes dictated by all the other forces in 19th Century society. Without tests, it might employ the increasingly skeptical scientists. Without traditions (or, even worse, the hindrances of

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[10] This explanation of Durham's foundation is elaborated in W. H. G. Armytage, Civic Universities: Aspects of a British Tradition, pp. 175-76.

[11] Edinburgh Review, vol. 48, p. 235.

[12] Ibid., vol. 42, p. 346.

a founder's directions in a charitable trust deed) it could alter both its attitudes and statutes. Founded as a non-profit joint stock company, with little endowment, it had to be self-supporting and therefore to cater to a varied clientele. Conveniently located at the seat of government, backed by men of affairs and political influence, and founded after involved negotiations for a charter, it readily and naturally appealed to the state.

VICTORIAN EDUCATION

The context of education and educational institutions in Victorian Britain was a combination of the new and the revolutionary. Previous systems of primary and secondary education were seen to be defective for the middle and upper classes and non-existent for vast numbers of the laboring poor. The growing complexity of business and the new professions required drastic revision of middle-class education; enfranchisement and employment in industry made education a necessity for the laboring classes. Debates over the character, amount, and control of this education kept the question in the forefront of Victorian politics and social criticism. Politicians like Brougham made education part of every program; literati like Macaulay kept the question before their readers. A vast range of educational experiments from monitorial schools for the poor through Arnold and Thring's revolution in the "public schools" to new universities, adult education at all levels, and reform of Oxford and Cambridge marked an age of revolution and de novo creations in education.[13]

New universities, increased primary instruction, public demand for reform, all require a particular attitude towards education which was developing or at

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[13] A new and concise summary of educational developments will be found in Lawson and Silver's, A Social History of Education in England.

least reappearing in the 19th Century. Education must be viewed as a social necessity or at least a benefit to society if it is to receive the attention of patrons, philanthropists, and reformers. To some extent the medieval endowment of education forms an exception to this as being in the interest of an improved after-life for the donor, but by Tudor times the connection was clear. Tudor endowment of university education insured the presence of a clerisy, both secular and sacred, for the purposes of the state. By the 18th Century, however, education was habitually viewed as sufficient in quantity and quality for the purposes of society. Clerics were trained, or at least supported, in the ancient universities, and private tuition, the Inns of Court, and the capitals of Europe trained the great men of affairs. Neither philanthropy, hoping to benefit society, nor the state, aiming at efficiency and security, was interested in education.

The 19th Century's steadily growing need for an educated electorate, literate laborers, trained technicians, and cultivation for the new middle class regardless of religion was brought home to the wealthy and powerful by their own experience and the periodical press. By the 1830s the Westminster and Edinburgh, in calling for university reform and new curricula, justify the demands on the grounds of society's need for educated men. Education as something a man may wish to purchase for himself, the prevailing 18th Century view, begins to be replaced by education in the public interest, a logical field for philanthropy and legislation. Thus we find the foundation and further endowment of a wide variety of higher education by 1890,[14] while the 18th Century had produced not even a new college at an ancient university.

The precedents and predecessors of the new universities were varied but Oxford and Cambridge were perhaps most obvious. Unsatisfactory as they had

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[14] For the various types and amounts of private philanthropy, see David Owen, English Philanthropy 1660-1960, pp. 361-67.

become in the 18th Century and in part remained in the 19th, despite a shrunken student body and an antiquated curriculum, for most people and purposes they were higher education. They were the sole degree granting bodies in England before the 1830s as they had been for hundreds of years. The state saw higher education in their terms and often through the eyes of their graduates in public life. Educational precedents at law were those of the ancient universities, an important consideration under a common law system. Briefly, the chief visible characteristics of this sort of higher education were: 1) it was expensive, collegiate, classical and, at Cambridge, mathematical; 2) its institutions were well-endowed, oligarchically self-governed and free to ignore and even defy the state; 3) it was an education for the Anglican gentry (including clergy) and increasingly the upper middle professional (though not business) classes and whatever sprigs of the nobility might wish to roister there or indulge scholarly tastes.

A majority of the persons involved in the establishment of new universities had little or no first hand knowledge of and had certainly not attended one of the ancient ones. Even at the turn of the 20th Century few businessmen had attended, and almost none of the Northern industrialists would have done so.[15] Their information would come from various secondary sources of very varied reliability.

Least reliable but quite widespread and popular were the steadily increasing number of novels about university life. These in general run to a type well-summarized by Mortimer Proctor:

> The freshmen, armed with parental advice from either a father who is a country vicar or a widowed mother who plans to live in penury to educate her son, arrives at the university aboard

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15 See Stone on, "The Size and Composition of the Oxford Student Body", in The University in Society and Rothblatt, Revolution of the Dons, charts pp. 280-84 for the continued gentry and professional character of Oxbridge students. The one likely exception to this rule would be physicians.

> a coach driven by a cigar-smoking, horntootling undergraduate (though later, of course, he comes by train from London). The formalities of matriculation performed, he meets his uncongenial tutor to determine a course of study; this, however, is at once neglected in favor of more diverting pastimes when he learns that college life is a highly social affair. Vigorous wine parties, a bonfire in the quad, tricks played upon unpopular students, midnight excursions to screw shut the doors of offending tutors, days in the field with hounds and horses and on the river in punt and shell, all take up too much time to permit him much study. Even if he is a quiet creature, he is drawn by the more sprightly into some form of undergraduate foolishness; if he is a wild one, he lives a very full life indeed.[16]

From this point on affairs may take a tragic turn, or more often the hero may recover his senses and graduate with honor, but in either case there is little here to attract a good middle class parent. Even the most popular of these novels, Tom Brown at Oxford, with the most successful of heroes, is by no means an advertisement for the ancient establishments; Tom Brown's success is in spite of a system which might easily have made him another of its supposed common product, the upper-class snob, unknowing and uncaring. This was a perfect reinforcement to the natural parental fear of creating a son who would leave and despise his origins and class.

A constant theme of university fiction was debt, high necessary expenses being vastly increased by student extravagance which was encouraged and almost required in an inbred, corporate society where one aped one's betters. In this matter the novel appears to have mirrored the truth with surprisingly little exaggeration. Rothblatt is only the most recent of a long line of secondary and primary sources testifying to the large and often unwarranted expenses of Oxbridge. And for the new middle class, debt was the sin of sins; the briefest perusal of Dickens testifies to that. Thus fiction presented a model of universities to be avoided; there must be other institutions and

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[16] M. R. Proctor, The English University Novel, p. 1. This paragraph and the next are based on his study.

they must be different. Only in the 80s do university novels of the sort with which we are still familiar, detailing the good old days at college, become common, and their influence must post-date the great civic foundations.

Led by Sir William Hamilton's essays in the Edinburgh, the great reviews provided a more balanced but equally discouraging picture of the universities. They hoped to reform, not to discard and replace, but they certainly did not encourage emulation of Oxbridge, and in fact supported new institutions as one part of the remedy. Brian Simon has remarked that "By the early 1830s all publications in any way expressive of the middle-class standpoint are in full cry against the state of university learning. . ."[17] In fact, this criticism was by no means uniform. While the Edinburgh Review called for an improved liberal education, with continued emphasis on the classics, the Westminster demanded a complete reorientation of learning. The unsatisfactory state of the colleges and the powerlessness of the university were a unifying point in this sort of criticism, but the unlikelihood of a young man getting a good education was clearly implicit in the reviews' attitude.

The growing power of the fourth estate, while not in itself an educational pressure, served as a transmitting and amplifying agent for such pressures. The periodical press in Britain, particularly the influential critical reviews such as the Edinburgh, Westminster and Quarterly helped to create public opinion and also serve as barometers of it. When a review maintains a reasonably consistent editorial policy and a large and faithful readership, as did the three mentioned above, it may reasonably be assumed that the editorial positions both represent and encourage the opinions of a significant segment of the literate, articulate public.[18] The education criticism in the Westminster

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[17] Brian Simon, Studies in the History of Education 1770-1870, p. 91.

[18] See the introductory chapter on method in Ellegard, Darwin and the Common Reader for a thorough discussion of the legitimacy and use of this sort of evidence.

and Edinburgh Reviews represented a broad spectrum of intellecutal reform opinion. These reviews were considered at the time to be the house organs of the radicals (particularly Benthamites and utilitarians, but not Chartists or Socialists) and Whig liberals respectively. Should the opposing views of Tory opinion be wanted, the Quarterly Review may always be consulted for defenses of the Established Church, the rights of collegiate foundations, and the dangers of an educated proletariat.[19]

In the long run the most significant criticisms were probably made by that most active arm of Victorian government the investigative committee or Royal Commission. Beginning in 1850 and continuing up to the present, a succession of Commissions have pointed out both weaknesses and strengths and proposed improvements in a vast assortment of blue books. Commission criticisms were the usual catalogue of expense and corruption, archaisms in teaching and learning, etc. The civic universities would be different. The commissions' blue books also put forward recommendations, at one time or another canvassing every possible solution to the various problems of higher education.

Sheldon Rothblatt has suggested that 19th Century Cambridge, and presumably Oxford as well, possessed another characteristic which would not endear them to a large part of the bourgeoisie, an antipathy towards business.[20] Essentially, Rothblatt argues that a decisive number of dons viewed business as grubbing for filthy lucre. The traditional professions were exempt from this fault by reason of their service character, and the notion that their practitioners were suitably rewarded with an honorarium rather than being

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[19] How many people were swayed by the reviews remains a moot point, even after such studies as John Clive's on the Edinburgh Review, (Scotch Reviewers: The Edinburgh Review 1802-1815. Cambridge: Harvard University Press, 1957). However, the intellectuals who founded London University and the businessmen who were to administer Owens' College were probably readers of and in some cases writers for the Westminster and Edinburgh.

[20] Rothblatt, The Revolution of the Dons.

demeaned by the receipt of a wage or bereft of their finer feelings by the crassness of a stock exchange. While perhaps significant, the importance of this characteristic should not be over-rated. Religion, expense and curriculum were far more effective bars to the admission of students intending a business career. It is worth noting that the Oxbridge students and dons who came to staff the new universities successfully stifled any antipathy they may have felt.

In some senses then, the civic universities were characterized by a reaction to Oxford and Cambridge. This is obvious in terms of curriculum and students, but equally true in less visible areas such as organization and administration. The attack on corporate abuses, and particularly on those of charitable foundations, was widespread, and a large part was directed at education. The legally sound but practically untenable position that grammar school foundations were meant to teach only the classic languages was being steadily undermined. The status of collegiate foundations at Oxford and Cambridge while less visible to the public was far more shocking. Teaching was moribund, as was a high percentage of the co-opted college fellows. The appropriation of funds answered neither the letter nor the spirit of the founders' bequests. Most significant, and most complained of by reformers at the time, the collegiate establishments had overwhelmed their parent and supposed governor, the university. Certainly the civic universities were to be very different organizations. Costs were to be kept low, residence was not originally considered desirable. A busy professoriate was to replace a class of idle college fellows.

It must not be assumed that agitation for university reform and for new institutions was entirely devoted to the destruction of Oxbridge prestige or the establishment of utterly different institutions. The essence of the battle

against the Tests was a demand for admission to the benefits and privileges of a more or less traditional higher education. Men like Owens and Firth and the founders of London University specifically stipulated that a major purpose of their foundations was to provide the advantages of a higher education much like that at Oxbridge to persons prevented from attending those institutions.

The inadequacy and not infrequent absence of teaching at Oxford and Cambridge led reformers to look abroad for other models. The Scottish tradition of a lecturing professoriate as the main means of tuition was found laudable and generally encouraged in new foundations. Owens College began with a staff consisting entirely of professors and did not appoint a tutor for some years. The northern tradition of open fellowships and a relatively fair distribution of revenues was applauded from an early date.[21] The age of developing economic liberalism could not help but notice the competitive character of a German professoriate. Freedom of teaching and payment by number of pupils were seen as incitements to a diligence unknown at Oxford and Cambridge. The Westminster remarked "With such a host of opponents no man can sleep at his post,"[22] and founders of new universities hoped to ensure proper teaching by paying by results.

The degree of significance of British predecessors and supposed precedents for civic universities is a debatable point. The one fairly clear line of descent is from the Dissenting academies of the 18th Century. Many leading non-conformists, including early 19th Century advocates of new universities were educated in these academies. However, there are obvious flaws in any assumption of great influence and great dissimilarities between the two types

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21 Edinburgh Review, vol. 35, p. 302 (1821).

22 Westminster Review, vol. 24, p. 102.

of institutions. The academies are generally assumed to have shot their bolt by 1800,[23] leaving a seventy year gap before the great age of new foundations. They were notably peripatetic institutions, and were generally short-lived. Their often mentioned science teaching was undoubtedly innovative in its day, but did not amount to much. The presence of a Priestley does not make a scientific center of Warrington Academy. They may, however, have provided an example of institutions setting out to fulfill newly felt and defined needs as opposed to places which people resorted to for a pre-defined education.

Two sorts of educational institutions preceded civic universities in every provincial city: medical schools and mechanics institutions. Medical schools appeared in the 19th Century to supply the want of medical education outside of London, Scotland, or the Continent, thus setting an obvious precedent. They came to need laboratories and teaching facilities for chemistry and other basic subjects which could best be shared with or provided by a more general educational institution. In addition, concern over the general and liberal education of members of the profession led to examinations in general education, and a new college was a convenient place to prepare for these.

The mechanics institutes were the 19th Century's first major attempt to deal with the educational problems of the dawning scientific age. Largely a creation of the middle class in the interest of their inferiors, they failed as a means of technical education for the working class.[24] As a source of recreation and mildly educational entertainment they throve as middle-class establishments until more functionally differentiated organizations began to

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[23] See Parker's Dissenting Academies in England for a general account which confirms this view.

[24] The various reasons were well discussed at the time in James Hole's Essay... on Mechanics Institutions.

usurp their purposes in the latter half of the Century. While never offering the education they may have intended, they offered precedent and stimulus. They had been formed by the well-to-do classes who would have to support successful universities. Better-off artisans and the lower-middle class had sent them older children (14-21) to the institute's classes, thus suggesting that there was a potential clientele for colleges. Equally important, they had been a genuinely new attempt to solve the problems of a changing society.[25]

The most significant precedent was also an active stimulus to new institutions: the University of London. It had been founded in a major city; it survived without significant endowment; it offered new types of education. Most important, in 1858 its charter was altered so that it was empowered to grant degrees after external examination, regardless of where the student studied, and it could also affiliate distant colleges to itself, providing a vague but comforting link to a successful institution. This provided a clear raison d'être for the establishment of new colleges which had not the power to grant degrees, and eventually helped them to achieve this pinnacle of status as well.[26] H. C. Dent has summed up the situation: "It was by preparing students for London University's 'external' degrees that every English university college for close on a century proved its right to full university status."[27]

The industrial revolution, whenever we date it and however we define it, had its effect on all those concerned with civic universities. Private persons and eventually the state would respond to change by undertaking social

[25] The standard history is Tylecote's, The Mechanics Institutes.

[26] M. L. Clarke, in Classical Education in Britain makes an interesting point when he argues that the little importance attached to the classics in London degree examinations militated against emphasis being placed on them in the new colleges.

[27] Dent, 1870-1970 A Century of Growth in English Education, p. 37.

engineering, including education, on a scale previously unknown. The revolution would raise new individuals and classes to prominence and they would require education. Further, much of the education itself would be new, scientific and technical, and educational institutions would have to prepare not only their students but their faculty, curricula, attitudes, and physical plant for this influx.

As industry progressed, diversified, and became more complex, it became increasingly necessary to acquire a body of scientifically based information relating to production, research, distribution, etc., and to equip a class of managers and skilled employees with this information. In short, craft and craftsmen needed to be supplemented by technology and technicians. The old methods of training by apprenticeship, suited to the maintenance of a stable number of persons and an unchanging body of knowledge, were ill-suited to the training of larger numbers, and utterly incapable of developing the new knowledge, technology. Higher education, linked with research, was to provide the answer.

A need must not only exist, but also be felt, before it can be filled, and the British were slow to become aware of the need for technology and its concomitant, the modern university. Precedents did exist. The Royal Society had offered awards for practical applications of scientific principles since its foundation in 1663. Throughout the succeeding eras some few men of science, business and industry had been aware of the need for a marriage of science and industry. Faraday and later Kelvin were scientists with industrial and technical connections and James Watts' work with Joseph Black, professor of chemistry at Glasgow University, foreshadowed the modern development of universities as servants of technology.

On the Continent, and most particularly in France, knowledge was acquired

and systematic technical training commenced in the 18th Century, while British industry generally retained craft methods and modes of thought well into the 19th Century. French works on civil engineering were the standard references for those few Britons who thought in modern theoretical terms. The Ecole des Ponts et Chaussées and after the Revolution the Polytechnique, provided a technological education at a level unavailable in England. In Glasgow, precursors of the Mechanics' Institutes appeared in the 1760s[28] but lectures to artisans were never to be a substitute for systematic professional training. These continental examples of technical education were long ignored by the English, but their results eventually forced themselves into notice. Foreign industrial competition, increasing in effectiveness throughout the Century, would force Britain to analyse its industrial weaknesses; and the greatest of these was the lack of modern education at all levels.

The need for sound general education of workers increased along with the complexity of machinery and industry, and this was evident to reformers of every stripe. It appears regularly in the Edinburgh and Westminster as a major argument for popular education along with the customary political and social arguments. A real and widespread understanding of the connection of higher science and education with industrial demands developed more slowly. The general proposition that various scientific studies were useful for industry, business, and government was stated quite early,[29] but as long as Britain maintained its lead in world industry, complacency defeated all advocates of serious reforms in higher education and the establishment of new institutions.

The great industrial exhibitions which increasingly became an educational

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[28] S. B. Hamilton, "Building and Civil Engineering Construction" in Singer, et al., A History of Technology, Vol. 4.

[29] In the 1820s by the Edinburgh and Westminster.

and competitive stimulus to European society after the Great Exhibition[30] revealed that Britain's long industrial lead was shortening, and that education seemed to account for many continental successes. By the late sixties, and especially after the Paris Universal Exposition, British complacency had given place to critical comparison and fears of future failure. The names of Borsig, Krupp, Creusot, and other famous Continental firms were heard in England and comparative tests showed Britain behind even the one-time colonies in agricultural machinery. British authors and critics were not slow to realise that education was a key factor in Continental achievements. The relatively poor education of the English work force was pointed out and invidious comparisons between British and Continental popular education received new impetus. Literacy and technical instruction became a universal demand of British reformers.

The limited and antiquated character of higher education was also assailed. British managers and technicians were unable to acquire that education and information which was evidently necessary to efficiency and progress.

"Our foremen, chosen from the lower industrial ranks, have no sufficient opportunities of correcting the deficiencies of their early education. Our managers are too apt in every case of novelty to proceed by trial and error, without scientific principles to guide them; and the sons of our great manufacturers too often despise the pursuits of their fathers as mere handicrafts..."[31]

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[30] Russian competition seems to have produced a precursor to the threat of Continental competition in the 70s. W. H. G. Armytage notes that the pressure of Russian expansion on the north of India, led by engineers and others trained in Imperial schools led to the creation of the East India Company colleges at Haileybury and Addiscombe in 1813 to train administrators and engineers. (The Russian Influence on English Education, p. 24.) The curriculum of studies at the new schools was considered of greater usefulness than that offered at other institutions, at least by the Edinburgh Review in 1816, (vol. 27, p. 511).

[31] Edinburgh Review, vol. 127, "Technical and Scientific Education," p. 442.

Scientists like Tyndall and Playfair and manufacturers like A. J. Mundella publicly expounded on Britain's educational deficiencies, especially when compared with her competitors.

One obvious step towards remedial action was to look to foreign examples in education. The public, or at least the critics, were not unaware of Continental developments in technical education. The Edinburgh had studied the Polytechnique in 1841, when British industrial opinion was still unanimously complacent. In 1868 when concern was mounting, the Taunton Commission on secondary education had sent investigators to France, Germany, Switzerland, Italy, Scotland, the United States, and Canada. The Devonshire Commission of 1872 found English science ill-organized and advocated among other things, the complete revision of secondary education to take account of technical and scientific needs.[32] Scientists were familiar with German achievements,[33] and indeed had often received their advanced training abroad. However, it was not the German universities or that pinnacle of French education, the Polytechnique, which were to serve as examples. The high quality technical institutes which were developing in France, Germany and Belgium were the objects of admiration. The Edinburgh Review, stimulated by the Paris Universal Exhibition of 1867, undertook a critique of "Technical and Scientific Education", and concluded that technical education abroad was providing the impetus for the Continent's enormous gains vis-a-vis the British.

Along with technical training awareness of the commercial significance of pure science was on the increase. The eventual applicability of scientific discoveries was realized and demonstrated by the Westminster in 1873. Britain's failure to support research was documented by a statistic on the number of

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[32] Cardwell, The Organization of Science, pp. 125-26.

[33] The Westminster analyzed German universities in 1836, vol. 24, p. 102.

published papers of scientific research in 1866: Germany, 777; France, 245; Great Britain, 127. While no direct mention of British universities appeared, it was pointed out that in German universities young men were encouraged to do research. One comment which may be seen as a suggestion was the remark that Britain lacked anything like America's Smithsonian Institute.

At this point many histories of British education sum up in favor of the demand for science and technology as the chief if not sole stimulus behind the developing civic universities and technicians and scientists as the end products produced. It is assumed that by the time that higher education began its major expansion from the 1870s through the turn of the Century, industry's needs were publicly recognized. The new university colleges would offer technical and scientific education. They would promote basic research and go to foreign countries for personnel and ideas, taking German chemists and French textbooks.

In fact, this conclusion would seem to require a good deal of modification. The economy's need for new men was not so great nor its demands so imperative as they may seem in retrospect. Graduates were to find few jobs which required their new skills until well after the turn of the Century.[34] The foreman, engineer, or technical expert trained on the job remained the standard type of "scientific" employee, and Smiles' Lives of the Great Engineers glorifying self-made men continued to sell well. And of course this low demand was reflected in the supply. The redbrick universities with the exception of Manchester were to remain relatively small institutions of some hundreds of students until the 20th Century while a rejuvenated Oxford and Cambridge were admitting about nine hundred freshmen a piece in 1900.

This demand shortfall is not surprising. It continued to be a British

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[34] See for example Rothblatt's table on the occupation of Cambridge's engineering graduates in 1910, Revolution of the Dons, p. 285.

presumption that technical training, if needed, was a desideratum for the working classes, while their betters required a general education or, perhaps, a business-oriented training. Matthew Arnold was one among many who pointed out that Britain educated its populace on different planes and that neither the aristocratic and professional nor the lower-middle class plane were thought to require the inclusion of science.[35] Certainly, the "public" and proprietary schools which furnished the education of such a large part of the middle classes and sent some on to Oxbridge had little use for science. Furthermore, this attitude was not entirely the result of a blind failure to recognize a primary need. Habakkuk has argued convincingly[36] that the relative decline of Britain's industrial position in the world was largely a function of such factors as population, resource availability and capital accumulation, and not the failure of scientific knowledge as perceived by men like Playfair and reviews like the Edinburgh and Westminster. If Schelsky's analysis of the occupational structure of industrial society is correct, then the large scale demand for the university trained scientist or technologist appears only in the 20th Century.[37]

THE STATE

The Victorian state could not be unaware of industrialization and its

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[35] Matthew Arnold, Schools and Universities on the Continent.

[36] H. J. Habakkuk, American and British Technology in the 19th Century.

[37] "The first phase of industrialization--up to World War I--shows three different occupational groups in industry, more or less corresponding to the phases of technical development--unskilled manual workers, skilled workers, and commercial and clerical personnel." H. Schelsky, "Technical Change and Educational Consequences," in Halsey, Flood et al., Education, Economy and Society. These categories of men are largely trained and/or educated by traditional methods.

concomitant problems. They assailed everyone's mind, eyes, and nose.[38] Indeed, it began to act in matters of health quite early, but the less patently obvious areas of difficulty such as higher technical education had to wait at least until the 80s before effective measures like the Technical Instruction Act began to appear. In fact, the state was slowly overcoming an enormous obstacle. The gospel of self-help, the doctrine of laissez-faire, was sometimes violated in practice but its theory was worshipped by the state and much of the articulate public. The most that new universities could hope for until the end of the 19th Century was tolerance, permission to incorporate, and eventually charters as universities. Money they could not expect: under Robert Lowe as Chancellor, the exchequer had refused funds for such basic studies as astronomical and tidal observations vital to Britain's maritime power;[39] new institutions of doubtful value were obviously beyond the pale.

Nevertheless, the state's attitude towards education unquestionably shifted in the course of the Century. That the state must not do what people could do for themselves remained a first principle. But increasingly, those necessary things which private enterprise could not accomplish became tasks of the state.

Private philanthropic enterprise, while greatly honored and active in Victorian England, was increasingly unable to meet the demand for education. Fortunately, the presumption that education was a societal necessity was growing at the same time as a feeling that the state must intervene in society's interests. The general principle of laissez-faire remained, but many a free-trader and classic liberal like Macaulay came to support government regulation of industry and child labor and education. Once government took some

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[38] See Chadwick's great works on Sanitary Conditions.

[39] Cardwell, The Organization of Science in England, p. 126.

responsibility for society, its role, perhaps inevitably, grew. And so where previously society had known only charity and the privy purse as means to society's ends, the 19th Century added a far more efficient means, the municipal rate.[40] From mid-century on, the private bequests which founded and supported schools and universities were matched and then exceeded by growing public rates for a variety of educational purposes. It is worth noting that the state's assistance sacrificed the principles of self-help as little as possible. Throughout the century the most common form of funding was the authorization of a local rate for primary and later technical education, locally approved, levied and administered. Schools, libraries, and a variety of municipal works were funded on this basis.

Public responsibility was first admitted at the lowest levels of education and in an indirect manner: public funds were offered to religiously-oriented societies providing primary education. The contribution was small but the result was inevitable. The provision of better education at the primary level prepares greater numbers of students for further progress. Coupled with an increasingly democratic franchise, government funded improvements in education would eventually lead to the establishment of a complete though not all-inclusive system of publically supported education. As the Century progressed liberals and reformers called for more funds for different purposes and by 1902 a succession of Education Acts had laid the groundwork of a complete national system of education from primary schools, paid for by local rates and inspected by public officials through universities increasingly dependent on grants from the state.

The state's authority grew with its responsibilities. In fact, education

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[40] Local rates had of course been part of the Poor Law at least since the time of Elizabeth, but the system was more an anomaly than a precedent, and was extensively reworked with doubtful success throughout the 19th Century.

may serve as an example of Dicey's famous theory on the changing character of the law and the state in 19th Century England. Education had long been regulated, if at all, through common law court decisions about property and the chancery court on trusts and estates. By the end of the Century the universities had been reformed by commissions, and the public school system was governed by administrative codes. Administrative law, and with it a more active role for the state, was indeed in the ascendant.

Educational matters had undoubtedly fostered this tendency. Liberal opinion, as expressed in its great quarterly reviews, had already defined the ancient universities as national, public assets in the 20s. They demanded reform, and the courts were no solution. Administrative reform would affect more than just the old educational institutions. Effective reform meant a drastic change in the attitude toward charitable trusts. These had long been held to be institutions inviolate both in their property and in the purposes to which it had originally been devoted. Thus a school or college could not change with the times; could not offer new subjects or assist new persons. With the University and Colleges Estates Act of 1858, the Endowed Schools Act of 1869, and a general shift in the attitude of the courts, enough flexibility was permitted to allow the formation of viable institutions.

It would be well to enter a caveat at this point: the trend towards state support was not a trend towards a monopoly of education. The right of private and sectarian education was presumed, and within reasonable limits such as the health and safety of students, is still presumed in Britain. Education was to be regulated by both the state and the laws of supply and demand. This is not surprising. Business joined philanthropy and the state throughout the range of 19th Century education. Many private schools were established as business speculations, and both University and King's Colleges

in London were founded as joint stock corporations with stockholders receiving nomination of a student and an estimated four percent.

While the state's influence on education grew steadily during the 19th Century, it remained relatively slight in higher education. It came to provide some of the necessary preconditions for new foundations, and even, through University Reform, stimulated public discussion, but it in no way provided sufficient conditions for the foundation, much less the success, of new universities.

FOUNDERS AND BENEFACTORS

The sufficient cause of new foundations was the interest of the people of the new industrial centers of the North and Midlands. First among them were the founders and benefactors, those who backed their interest with hard cash and valuable time. They reflected many of the attitudes of society at large, but also those peculiar to their situation. They were frequently dissenters, cut off from the state church, the state universities, and thus the dominant, ruling class culture. Their business pursuits and attitudes were at cross-purposes with those of an older aristocracy, and the things they created reflect this position. Edward Shils carries the idea so far as to say that they created a culture of their own, based on philanthropy, cultural institutions, a business morality, etc.; a culture in sharp contrast to that of an Oxford, Cambridge, London-oriented "gentry".[41] At any rate they created and administered the great new or expanded cities of the Industrial Revolution, and created the civic universities as part of them.

These cities had grown at a phenomenal rate since the late 18th Century.

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[41] Edward Shils, "The Intellectuals," Encounter, April 1955.

Consequently, they were ill-served and supplied by the traditional apparatus and institutions of the state. Anglican clergy were few and representation in parliament even sparser. The ancient universities, ostensibly national, failed to educated their elite. Lancashire and Yorkshire, which include Manchester, Leeds, Liverpool and Sheffield, provided substantially less than 10% of Oxford's matriculants in 1835 and less than 19% in 1885.[42]

Adversity did not discourage these cities. On the contrary, they remain the most obvious physical embodiment of the Victorian belief in progress. They established their own religious organizations; they governed themselves in the absence and even in defiance of parliamentary legislation. Asa Briggs has chosen three of them as the classic Victorian cities and his subtitles express their character: "Manchester, Symbol of a New Age; Leeds, a Study in Civic Pride; Birmingham: The Making of a Civic Gospel."[43]

The intellect did not go unprovided for. In England a mutual interest leads to a club, and the interest in thought produced its quota in the new cities. As in so many things, Manchester was here the archtype of the new age. Its societies were copied in other civic centers and they all provided a convenient place for the well-to-do to acquire and disseminate opinions on education. H. B. Charlton, in tracing the genesis of Owens College, has listed nine among the many intellectual societies formed in Manchester between 1780 and 1851 ranging from the Manchester Academy to the Royal Medical College, but the first and most famous of these may serve as an example.[44] Founded in 1781 the Literary and Philosophical Society established a widespread reputation. It studied, proposed, and indeed inaugurated several educational

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[42] Lawrence Stone, The University in Society, vol. 1, pp. 78-70, 102.

[43] Asa Briggs, Victorian Cities.

[44] See Charlton, Portrait of a University, chapter II, "The Preparation".

experiments and undoubtedly contributed to form an attitude favorable to innovation in education.

The support which civic pride and civic responsibility gave to the establishment of new colleges, the eventual civic universities, shows a growing realization of education's vital social role, affecting industry, commerce, local government, etc. Educational facilities of all kinds were becoming a recognized necessity. Of the seven cities which established university colleges by the end of the century, five were providing the largest free public libraries in Britain by 1872 at the ratepayer's expense and by public vote.[45] Manchester was the home of the Statistical Society which did many educational studies, numerous education committees, and the National Public School Association by 1850. Such civic interest undoubtedly affected Owens' choice of benefaction, as it would later do for Mason at Birmingham and other less famous benefactors. That the new civic pride was linked to educational interests is well demonstrated by Owens' trustees. Two mayors and a variety of public officials were on the Board and in fact certain trustees had backed the bills of the newly formed Manchester Corporation when its legal existence was under attack by Tories.[46]

Thus a wealthy man in the new cities might think of education as a suitable object of his charity, and his trust would find trustees who had read, thought about, and discussed educational questions, and who considered a new college an important addition to their city.

In naming a faculty the founders of a new college simultaneously give form and shape to the institution and sacrifice a great deal of their power to shape it further. The power of the faculty waxes with time and that of

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[45] Westminster Review, vol. 98, p. 333. See chart on p. 343 for statistics.

[46] Thompson, The Owens College, chapter III.

the founders and trustees correspondingly wanes. Conducting the day-to-day business of the institution, the faculty's habits become those of the school. As experts they are deferred to in the choice of courses, the selection of students, and as time goes on, in the selection of their colleagues, the awarding of scholarships, and decisions about research. Thus they come to control a great part of the college's business and expenditure. Even at the very beginning, they define the content of the subjects they are employed to teach, set the standards of achievement for students, and more subtly, influence the students' attitudes and decisions.

The faculty brought a variety of influences to bear in these ways on the fledgling civic universities. Oxford and Cambridge, while suspect for their tests, archaism, expense, and supposed immorality, inevitably influenced the new colleges through a faculty which was recruited in substantial part from them. The ideas they brought had never been entirely anathema, as is shown by Owens' will, and as the Century progressed internal reformers from Jowett to Patteson gave new purpose and meaning to Oxbridge ideas and ideals. By the time of Firth's stipulation about an Oxbridge-like curriculum in his will establishing Sheffield, Oxford and Cambridge, had left their 18th Century habits far behind. Curriculum had broadened, fellowships opened, and the tests were a thing of the past. Also of importance for influencing new foundations, a whole body of literature expressing new ideas in education had appeared from Oxbridge itself.

Undiluted classics at Oxford and equally narrow mathematics at Cambridge were no longer the order of the day. Philosophy, English literature, even history were becoming respectable subjects, dignified by examinations leading to an honours degree. The notion that the university's purpose was to create and polish gentlemen certainly remained, and indeed it was reinforced by the

growth of muscular Christianity and the public school ideal. However, it was increasingly believed that other subjects than classics might contribute to a liberal education, and indeed the teaching of science was often justified on these grounds. An Oxbridge scholar could take this new philosophy north with him without undue discomfort.

Memories of other universities might influence the new faculty member. Chemists and theologians alike were likely to have studied at German universities and acquired new ideas about scientific research or new and rigorous methods of historical research. More broadly, the chaos of English institutions would be compared unfavourably with the efficiency of institutional organization in Germany.[47] Other faculty members, especially medical men, or those barred from Oxbridge by tests, would have a background of Scottish university education, with its ideal of general education, its low cost and wide recruitment, and its lecture method.

Perhaps as important as any of the above, all faculty would bring with them a notion of their own importance, of their central position in an educational institution. Merchant princes and industrialists on boards of trustees and courts and councils might think they were hiring new employees, but they were to discover that instead they had created institutions largely governed by their faculty in accordance with principles very different from those of the manufactory or counting house.

STUDENTS

Both the previous background and future intentions of students are of great importance in influencing a college. A certain amount is known about all full-time students. They possessed either sufficient wealth or a

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[47] See Haines, Essays on German Influence.

willingness to make such sacrifices as would allow them to defer earnings and entry into labor or business in an area and era where almost all classes sent their sons to work by their middle teens. They were also prepared to go against the grain of general opinion, which held that further education was of little practical use and might unfit a man for business. As for the chances of scientific or technical employment for graduates, they were very small until the turn of the century.

The previous education and preparation of the first civic college students is presently problematic. What is certain is that any secondary education they had received had involved trouble and expense, that is it represented a personal decision, not a societal norm or a universal legal requirement. There is no question of an institutional pressure for higher education brought about by widespread secondary training, though such pressure had produced the higher school following the elementary schools. The new universities were in no sense a means of absorbing large numbers of secondary graduates, as seems to have been a great stimulus to American expansion. Public secondary education hardly existed until the 20th Century and private secondary education, if it did not lead to Oxbridge and the professions, was a logical terminus itself, leading straight to the Civil Service, business, etc.

What was available by the 70s was a variety of possible means of preparation. For the well-to-do of the cities there were the growing number of minor public schools and a variety of proprietary establishments, as well as such traditional modes as the tutor or boarding with a teaching clergyman. There were also limited opportunities for a free or cheap secondary education which might prepare a poor or lower-middle class pupil for higher education. In Leeds, for example,[48] a number of likely sources of college students appear.

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[48] The examples are from Curtis, History of Education, pp. 155-175.

The Taunton Commission had found Leeds Grammar School one of the few satisfactory institutions of its kind, and remarked on the quality of its science teaching. The local Mechanics Institute had been converted into the Boys' Modern School in 1845 and Girls' High School founded in 1876. Like other cities, the increase in public primary education had created a demand for further studies and a stopgap system of Higher Central Schools had been created to offer some secondary education for successful primary pupils.[49]

The possible future of a civic university graduate was of course very varied, and only one broad category of future stands out clearly as an influence on the colleges. The traditional liberal professions of the past were being joined by a steady succession of newly-defined or upgraded professions in the 19th Century. For reasons of credibility and social prestige, practitioners of various arts and sciences wished and needed to be certified as competent.[50]

Institutionalized education in a field is often preceded by a demand for certification, with its resulting definition of professional competence. The necessity for testing knowledge and ability in a field brings about a definition of the prerequisites for certification. It is then possible to offer a course of instruction in the field, providing the information and training needed to pass the tests. The necessity for such certification was steadily growing with the population, cities and mobility of 19th Century Britain. In a stable, unchanging society, competence is certified by familiarity with the individual and knowledge of his training and achievements. In new industries and new cities a universally recognized standard of ability becomes necessary.

The formation of professional societies testifies to the developing

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[49] See Wardle, English Popular Education, chapter 7 for a good brief account of the early attempts at public secondary education.

[50] See Reader, Professional Men, for a discussion of this.

realization that a shared and transmitted body of knowledge characterised many of the new or enlarged endeavors of the 19th Century. The Society of Engineers appeared in 1771 and the Associated Architects twenty years later. It was natural that these should be the first of the new professions to become self-conscious. French precedent, with a military corps of engineers and the great engineering schools like the Ponts et Chaussées,[51] and the unprecedented demand for highways, canals, bridges and buildings combined to encourage the development of a professional identity. The developing understanding of the need for certification of professional abilities is demonstrated by the shift from a fraternal to a more formal association, often with educational ambitions. When the Society of Engineers had become the Institution of Civil Engineers (1818) and the Associated Architects of the 1790s the British Institute of Architects (1834), the realization of the need for professional training on a large scale and of theoretical as well as practical studies could not be long delayed. The university colleges of the 90s were to develop full courses in a variety of engineering, mechanical and design disciplines.

It was a demand for better certification in an ancient profession which led to the most obvious forerunners of civic universities. Medical degrees and licenses to practice were a veritable Serbonian bog in 1800. The antiquated state of English education led most able and aspiring physicians to study abroad, in Scotland or on the Continent. Medical degrees from the ancient universities were of dubious value, the line between doctors and pharmacists was hazy, and totally uncertified practitioners had a field day in the chaos, encouraged by the need for health care in the expanding cities.

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[51] The incorporation in a society, with its presumption of a discernible professional identity based on skill or knowledge also had French precedents; e.g., Academie de l'Architecture, 1671.

Certification upon examination by the Royal College of Surgeons and by the Society of Apothecaries had begun to regularize the status of physicians by 1815.[52] It also stimulated the foundation and growth of medical schools, often attached to hospitals, and in London attached to the University, a portent of the future.

Provincial medical schools were forerunners, stimuli and models for red-brick colleges. Their establishment in provincial cities coincided with proposals for universities in six of eight cases, though no Universities were founded for fifty years.[53] Medical education's foreign connections, particularly with Edinburgh, Leyden and various German universities, would suggest foreign models for later experiments. The example of medicine and the incorporation of medical schools within the developing universities would encourage the growing belief that other, newer professions could make use of a scientific background and a body of theoretical knowledge communicable by formal education.

The stimulus of professionalization was not limited to practical training, and indeed the purely professional training often remained outside the colleges and even the later, expanded universities. The social side of professionalization was, however, intimately connected with the "liberal" character of the traditional professions. That is, their members derived their social standing from their general education, usually at a university, and not from their technical skills. The new professions imitated the old, and the demand for liberal studies correspondingly rose throughout the century with the institution of general education tests for professional certification.

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[52] This is not to suggest that the medical profession was suddenly made whole. Many a Lydgate struggled against antiquated practice and worthless treatments in many a Middlemarch until late in the Century.

[53] Armytage, Civic Universities, p. 170.

One other likely ambition of students brings us full circle to the indirect but significant influence of the state. In India, the colonies, and at home, Civil Service appointments came to depend on examination, and examination in general as well as technical subjects. The regular concern of Owens College with any changes in the Indian Civil Service exams shows the importance of this influence on the new colleges.

The above catalogue of influences is neither exhaustive nor greatly detailed. Nonetheless, it demonstrates the impossibility of understanding the university in isolation, or of finding any single vital connecting link between the university and society. The university is not attached to the world by a few lines; it is enmeshed in an extremely intricate and interesting web.

CONCLUSION

The history of universities in their social context is not a merely antiquarian study; it is the soundest basis for consideration of the contemporary university and its problems. The most frequent debate, characterized by phrases like "ivory tower, relevance, lehrn and lehrfreiheit, objectivity", is really a question of the form and efficiency of the university's articulation with society at large. The customs and organs of the university are a reflection of its past relations with society, and may meet only past needs; the organs, or indeed the whole university, may become vestigial, or may force society to continue to accept their unsuitable services for a while. The adaptability of organs to new demands can seldom be reliably determined without reference to their elasticity or lack of it in the past. In this sort of debate anyone may find evidence to suit him, but a more thorough search may also uncover the reality of the university's past and present

role, so often obscured in controversy over its theoretical position.

The relations of the university with the wider world go far to explain stability, change, growth, decay, and variety within the institutions. A change in the type of students may force great alterations. The "regenting" system of Scottish universities (in which a single instructor took a group of students through their entire university course) suited schoolboys of 14 but could not provide the education needed by the older and better prepared students of more recent times. Student and alumni variety may also explain the different function of formally similar organs. Convocation at the new civic universities was established with Oxford and Cambridge in mind, but hardly served the same purpose. No massed legions of country clergy would ever come to Manchester to die in the last ditch in defense of an old order in education. Administrative organs may change radically with the change of personnel; new trustees or councillors may bring entirely new concepts with them. (The university's organs may also reflect internal change, of course. The ostensible relationship of faculty and trustees in civic colleges was stable, but in fact an increasingly professionalized and self-conscious body of professors took increasing control of the institutions.) A change in outside society may have profound repercussions within: the new professions' search for social standing in Victorian England gave "liberal education" new justification, perhaps even a new lease on life.

University history is informative about general social history. With the state and the church, universities represent institutional continuity on a generally unequalled scale of time and size. If properly read, their history is a record of the social activities and pressures of the past. Perhaps they reflect even more accurately than church or state, as neither dogma nor an army defends them from society's demands for long. As well as

providing passive evidence, the university's past relations with society may actively reassert themselves. To really understand the Victorian Civil Service one must look at Oxbridge. The university education of the past was already the hallmark of the class of men who formed the upper unreformed Civil Service. It was these university men who devised the exams and, unsurprisingly, used them to create a "new" Civil Service largely in the image of Oxbridge society and education. The universities' social and educational system was thus perpetuated and indeed given another raison d'etre: preparation for the new career it had done so much to define.

Comparative education, both as academic discipline and practical politics, will benefit from seeing universities carefully and precisely placed in their social context. For the scholar, it helps to explain the similarities and differences of different systems, and to distinguish between differences of form and those of function. For the administrator or planner, particularly in new or radically changing educational situations, it may be the key to understanding past failures and successes, and to judging the usefulness and adaptability of a transplanted organ in the new system. For these purposes the study of British universities in the 19th Century is most important. For it was this growing system, exported by a more than merely economic Empire, which has formed the basis of the systems of higher education in much of the 20th Century world, for good or ill.

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